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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,813	10/20/2003	Taro Ikeda	03500.017674	8962
5514	7590	10/20/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			LEE, PETER	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	
			2852	

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/687,813

Applicant(s)

IKEDA ET AL.

Examiner

Peter Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 is/are allowed.
- 6) ☒ Claim(s) 1-6,8 and 10 is/are rejected.
- 7) ☒ Claim(s) 7,9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/18/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation of having the second developer carrying member abut to the image bearing member earlier than the first developer carrying member as seen in claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the first embodiment as described on page 8 lines 10-14, where the second regulating member 56 is said to abut to the photosensitive drum first. This description is not shown in any of the figures 2-6 describing the first embodiment of the invention described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement

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Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kimura et al. (US pn 5258819).

Kimura teaches an image forming apparatus (abstract first line) comprising:

A plurality of developing units (Fig. 1A part 9M, 9Y, 9C) (ie. developing devices) for developing an electrostatic image formed on a photoconductive belt (Fig. 1A part 4) (ie. image bearing member);

A revolver type developing device (Fig. 1A part 5) that holds the plurality of developing units and rotated in a route including a developing position where the rotary member selectively positions any one of the developing devices at a developing position (col. 1 lines 28-35; col. 4 lines 50-55); Wherein each of the developing units has a first developer carrying roller (Fig. 3 part 22Y or 22M or 22C) and a second supply roller (Fig. 3 part 23) (ie. second developer

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carrying member) for carrying developer to said photoconductive belt.; and a holding member that holds the first and second developer carrying rollers within is pivotally moveable about a pivot shaft (Fig 1A part 45).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1, 2, 3, 4, 5, 6, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuma et al. (US pn 5160969) in view of Kashiwabara et al. (JP pn 11-002961) .

Mizuma teaches an image forming apparatus (Fig. 6) comprising: Four separate developing containers (Fig. 6 parts 107,109,111,113; note col. 14 lines 35-41) corresponding to four separate colors to perform a color developing process with respect to the electrostatic latent image formed on the photosensitive body belt (Fig. 6 part 101) (ie. image bearing member); A rotating developing device (Fig. 6 part 137) for holding the four developing containers and bringing them to the proper first developing position (fig. 6 reference P1; note col. 14 lines 35-41).

Mizuna does not teach the four developing containers having the claimed first and second developer carrying members to carry developer to the image bearing member. Mizuna also does not teach having the claimed holding member for pivotally holding the first and second developer carrying members.

As to claim 1, it is Kashiwabara who teaches a first developer application means (Fig. 1 part 30) and second developer application means (Fig. 1 part 40) (ie. developer carrying members) for carrying developer to a photosensitive drum (Fig. 1 part 2) (ie. image bearing member); and a support shaft (Fig. 4 part 33) (ie. holding member) that holds the first developer application means and second applications means and is pivotally moveable (note: paragraph [0024]).

As to claim 2, Kashiwabara further teaches one of first and second developer application means substantially abutting against the photosensitive drum (note: paragraph [0004]; part 47 in Fig 4 is used for abutting the developing sleeve to the drum) whereby a position of the other developer application means relative to said photosensitive drum is determined (note: paragraph [0022]; this aspect can be seen in Fig. 6 when the first developing application means 30 is placed in position, the second developer application means 40 is at a set distance, DG2, from the photosensitive drum).

As to claim 3, Kashiwabara further teaches an abutting member in Fig. 6 part 47, attached to the second developing application means 40 to substantially abut against the photosensitive drum (part 2 in Fig. 6) to ensure a distance (DG2 seen in Fig. 6) from the photosensitive drum, and a biasing means (spring member 653 in Fig. 4) for biasing said abutting member toward the photosensitive drum, wherein the support shaft (Fig. 4 part 33) utilizes the abutting member to pivotally move the first developer application means towards the photosensitive drum (this can be inherently seen by the pivoting nature of the support shaft, which when pivoted about shaft 43 in Fig. 4 will aid in urging the first roller 30 towards the photosensitive drum 2).

As to claim 5, Kashiwabara further teaches a biasing spring (Fig. 4 part 653) that is positioned and functions so that it is attached to the support shaft (Fig. 4 part 33) (ie. biases a portion of the holding member) and is near the abutting member (Fig 4 part 47) (note: from the figure 4 it can be seen that the biasing spring member 653 is near to the abutting member 47).

As to claim 8, Kashiwabara further teaches in fig. 4 the first developer application means (part 30) having a specific placement within the developing device to ensure a spacing between the photosensitive drum of DG1 (ie. first developer carrying member has it distance to said image bearing member ensured by being positioned in said developing device).

As to claim 10, Kashiwabara teaches the use of a biasing spring (fig. 4 part 653) used to bias the developer application means towards the photosensitive drum (fig. 4 part 2) (ie. towards said image bearing member side).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to take the single position developing device seen in Kashiwabara and put it into a multiple unit rotary apparatus as found in Mizuma. Combining such a single toner/developer device into a color image forming device is further supported in the fact that the reference Mizuma which includes the multiple developing device rotary member also includes a second and separate developing device (Fig. 6 part 151; Mizuna) specifically set aside for black developer (col. 14 line 52-60). One of ordinary skill in the art would have been motivated to bring the dual developer application means setup as seen in Kashiwabara into the rotary device seen in Mizuna because the dual developer application means has the ability to develop more of the latent image on an image bearing member, thus increasing the image formation rate of the over all image forming apparatus (Kashiwabara).

As to claim 4, by placing the twin developer application means unit found in Kashiwabara (fig. 4) into the space provided for the developing units (Mizuna Fig. 6 parts 107, 109, 111, 113) in the rotating type developing device of Mizuna so that first developer application means (Kashiwabara Fig. 4 part 30) (ie. developing carrying member) is stacked on top of second developer application means and maintains the clockwise rotation found in Mizuna Fig 6, the limitation of having the second developer application means arrive at the developing position later that the first developer application means will be satisfied with the clockwise rotation (Mizuna Fig. 6) of the rotary member. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the double stacked developing device seen in Kashiwabara and put it into a color rotary developing apparatus as found in Mizuna. One of ordinary skill in the art would have been motivated because such a double stacked developing device which has both developer carrying members touch the image bearing member allows for a faster overall image formation rate (Kashiwabara machine translation paragraph [0002]).

As to claim 6, if the double stacked toner developing unit taught in Kashiwabara were to be applied to a rotary type developing device as taught in Mizuna, then the limitations of the first developer applications means (Kashiwabara Fig. 4 part 30) and second developer application means (Kashiwabara Fig. 4 part 40) performing a developer operation for the electrostatic image on the photosensitive body belt (Mizuna Fig. 6 part 101) (ie. image bearing member) in the named order will be taught. This is taught by having the rotary developing device (Mizuna Fig 6 part 137), having the double stacked developing means of Kashiwabara incorporated, rotate clockwise from a perspective as seen in Mizuna Fig. 6, the first developer application means



(Kashiwabara Fig. 4 part 30) will arrive upstream before the second developer application means (Kashiwabara Fig. 4 part 40) which is located in the downstream path. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the double stacked developing device seen in Kashiwabara and put it into a color rotary developing apparatus as found in Mizuma. One of ordinary skill in the art would have been motivated because such a double stacked developing device which has both developer carrying members touch the image bearing member allows for a faster overall image formation rate (Kashiwabara paragraph [0002] and [0022]).

*Allowable Subject Matter*

5. Claims 7 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 7 has the limitation that could not be found in the cited references of the second developer carrying member abutting against the image bearing member earlier than the first developer carrying member. And claim 9 has the limitation that could not be found in the cited references of the first and second developer carrying member having a center of pivotal movement in between the two members.

6. The following is an examiner's statement of reasons for allowance:

Claim 11 is allowed.

As to claim 11, patentability resides, at least in part, in having a plurality of developing devices on a rotating member, wherein each developing device consists of two developer

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carrying members, and having the second of such developer carrying member abutting against an image bearing member earlier than the first developer carrying member.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Sekiguchi et al. (Japanese patent 2002351211).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Lee whose telephone number is 571-272-2846. The examiner can normally be reached on mon-fri 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on 571-272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PL 10/5/12

  
SANDRA BRASE  
Primary Examiner